NITRAS & STASS Technology Upgrade Feasibility and Implementation Report
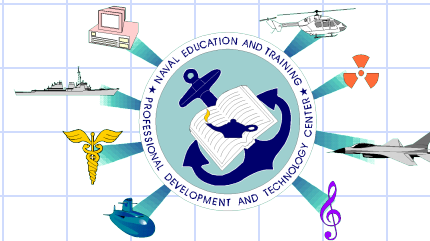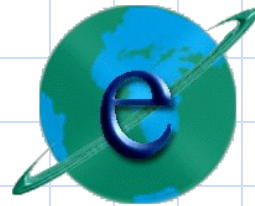
(Per CIO Task Control No. ST/N0001)

Jan 2001

Tasking

- ◆ CIO Task (Control No. ST/N0001)
  - ▪ Investigate migrating STASS / NITRAS to "true" Web environment
    - ◆ i.e., Only Client Requirement – Browser & Intranet / Internet Access
    - ◆ Current STASS / NITRAS web based on client / server architecture

Background

- NETPDTC receives CNET Tasking ST/N0001 - WEB MIGRATION STRATEGY
- NETPDTC N6 presents Initial Results to Date Web Migration Brief to CNET CIO 28 July 2000
- NETPDTC receives approval to proceed to Phase 2
- NETPDTC prepares report ID'ing findings, POA&M and costs
- NETPDTC delivers final report to CNET CIO 19 Oct 2000

Background (Cont'd)

Currently:

- ◆ Client / server
- ◆ CENet, Tunnel, Web / Internet
- ◆ Reducing Production Database Servers – 16 to 9 to 5
- ◆ 80+ NT forms servers ("Odrive")
- ◆ Number of Users – STASS 6000+, NITRAS 1200+

Why the Transition:

- ◆ De-support of Oracle's client server products
- ◆ Direction Industry and eGovernment is Moving
- ◆ Regionalization
- ◆ N/MCI
- ◆ Downsizing

Executive Summary

Findings

- Use current Oracle-based database environment
- Oracle 6i/8i Tools/Database
    - Reduces migration time, learning curve and costs
- Use current STASS/NITRAS infrastructure and upgraded communications/server (s)
- Server consolidations in process 16-9-5 to 1

Benefits

- Eliminates maint/support of 80+ NT servers
- Eliminates oncoming N/MCI client support issues
- Selected Oracle 6i/8i supports current HP consolidation strategy - eliminates symmetric rep
- Single database ensures data quality and integrity
- Reduce PC SW req; STASS/NITRAS II access anywhere/anytime via Browser/Web technology
- STASS/NITRAS II will continue to operate when Oracle client server no longer supported

Design Considerations / System Requirements

Criticality

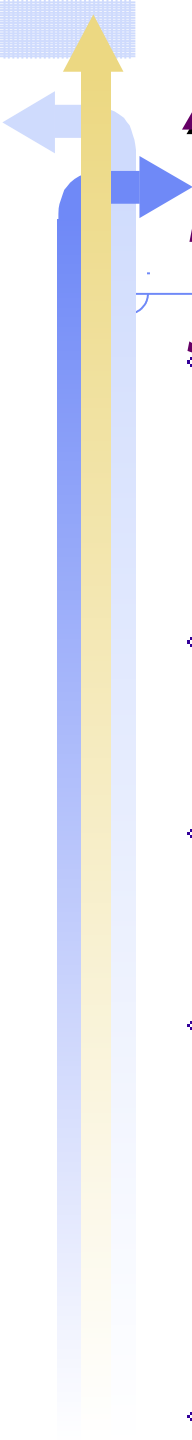|	
H	Development Tools / Database
H	System Monitoring/Back Up & Recovery / Performance Tuning Tools
H	UNIX / NT / Linux
H	PKI / DoD Mobile Code Policy / Firewall / Port Restrictions / Policy
H	Common Access/SMART Card support (Associated with PKI)
M	N/MCI
H	External Interfaces / INTRPD (Low Risk)
H	Row Level Security
M	Graphics / Spell Check
H	Singled Sited Host Computing Environment, Single Corporate / Enterprise Information System (Ensures data quality / integrity)

Criticality

M	Quality Assurance / Quantity Control Tools
M	Configuration/Release Management Tools
H	Date Oracle Client/Server Support Terminates
L	Split Screen Functionality
H	Peripheral device support (Scanners, bar code readers, printers)
H	Report view and distribution (print, download, email attachment, etc.)
H	Help text support
M	Laptop & wireless hand held/palm pilot support (High Criticality in future)

Alternatives Considered

- Oracle 6i/8i – integrated development tools & database
- Citrix – pseudo web
- SyBase & Microsoft SQL Server – no advantage re: migration costs, performance, dual migration environment, learning curve, etc.
- IBM/DB2 – database, lacking integrated development tools
- Unisys – hardware, software products, & application service provider
- JAVA and HTML – complete redesign / rewrite
- Bea – conversion tool
- Kumaran – conversion tool

Advantages gained by an Oracle 8i Database / 6i Tool Kit, HP UNIX Solution

- A total package re: database, development tool kit, performance tuning / back up & recovery tools

- Reduced migration time re: learning curve associated w/new environment

- Reduced costs re: own current production environment

- Independent of the tools, Oracle is recognized as an industry leader in database technology, e.g., 96% of the top e50 Businesses run Oracle database

- Build on current development hardware

Advantages gained by an Oracle 8i Database / 6i Tool Kit, HP UNIX Solution Cont'd

- ◆ Oracle 8i
  - ▪ supports fine grain access control, i.e., row level security
  - ▪ supports "standby" database on separate host for fail over & read only / ad hocs
  - ▪ includes encrypt / decrypt package permitting selected columns of data to be stored in encrypted format, e.g., SSN
- ◆ Oracle 6i
  - ▪ permits forms to be deployed as client server or Web. No need to maintain dual program libraries during migration.
  - ▪ Forms Server Release supports SSL protocol to provide server authentication, secure data transition & data integrity.
  - ▪ supports XML output, I.e., XML replacement for HTML "extensible" re: not a fixed format as HTML.
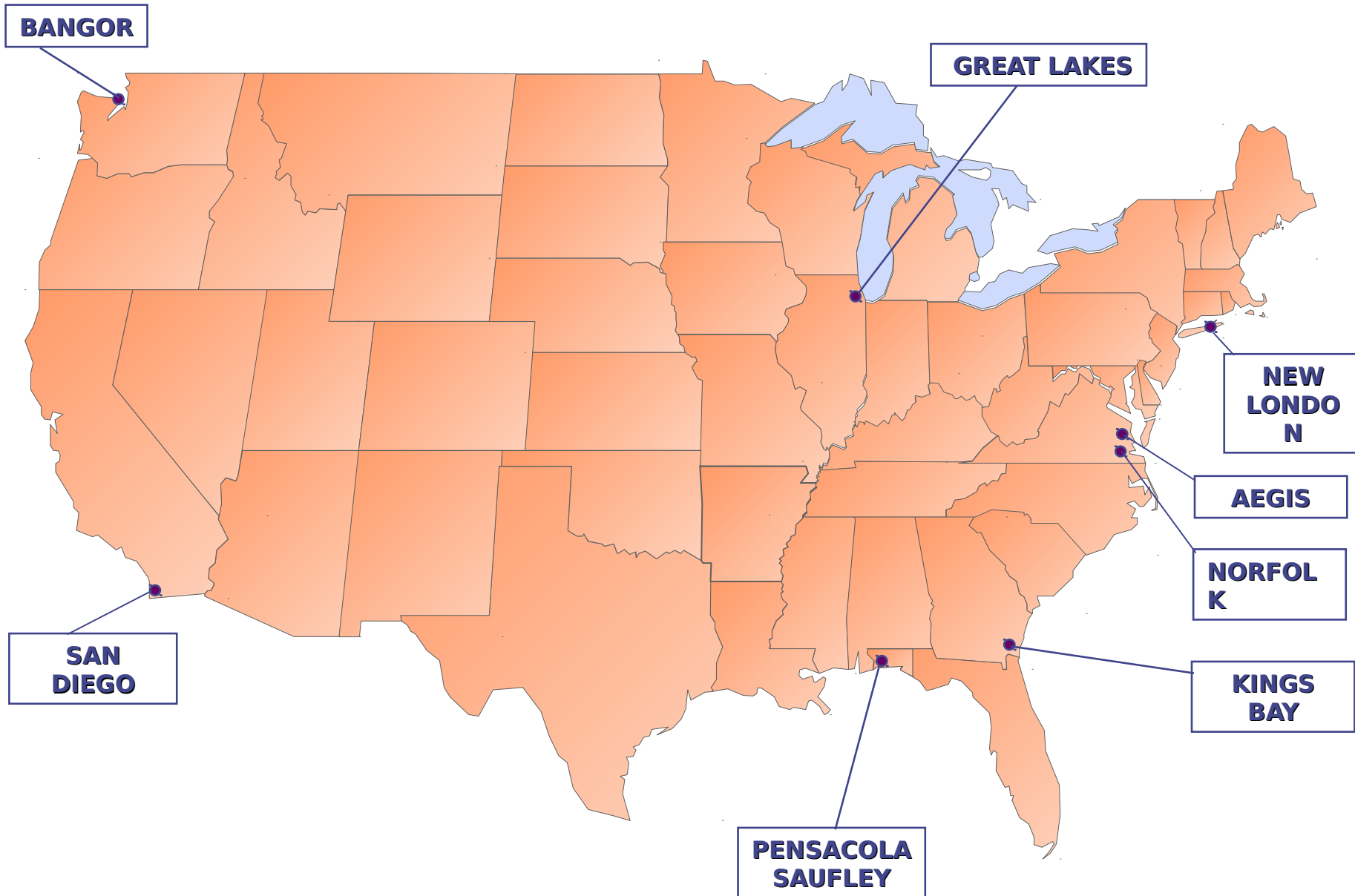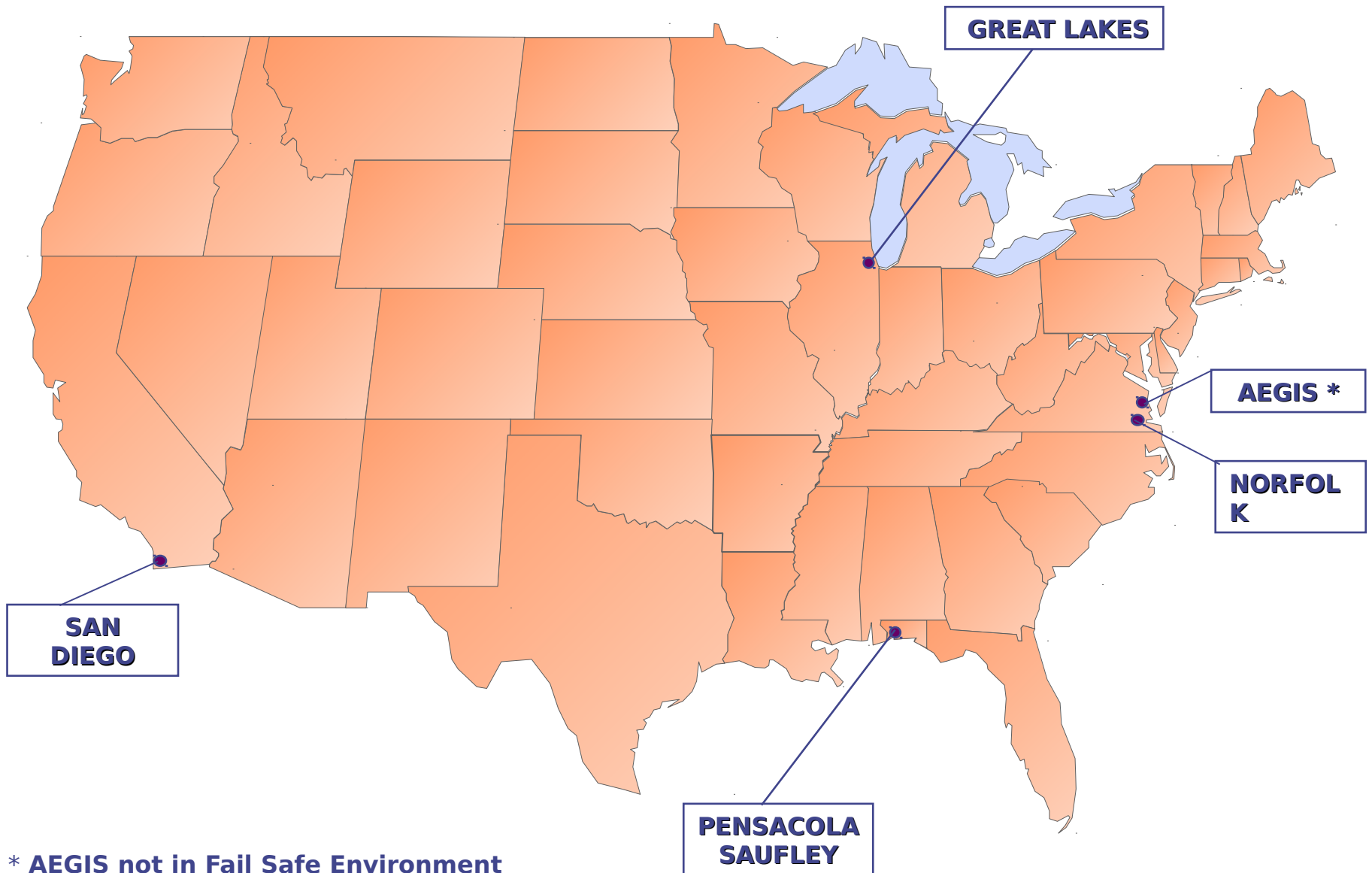- ◆ Supports goal of 12 months to implementation of 1st prototype site(s).

Assumptions

- Project will remain fully funded
- NETPDTC MEO under A76/CA Study will be selected
- Mobile Code/Firewall Policies will continue to change
- Will impose a STASS / NITRAS development moratorium
- Key Resources needed for success of the project will be available (people, contractor support, equipment, facilities, etc.)
  - Issue: Can we retain our corporate knowledge? (loss of 25 personnel in N62 since CA and more anticipated)
- Responsive / adequate bandwidth Intranet / Internet will be available – 24 X 7
- Development tools / operational environment will change in the next 18 – 24 months, e.g., Windows ME, Oracle 7.0

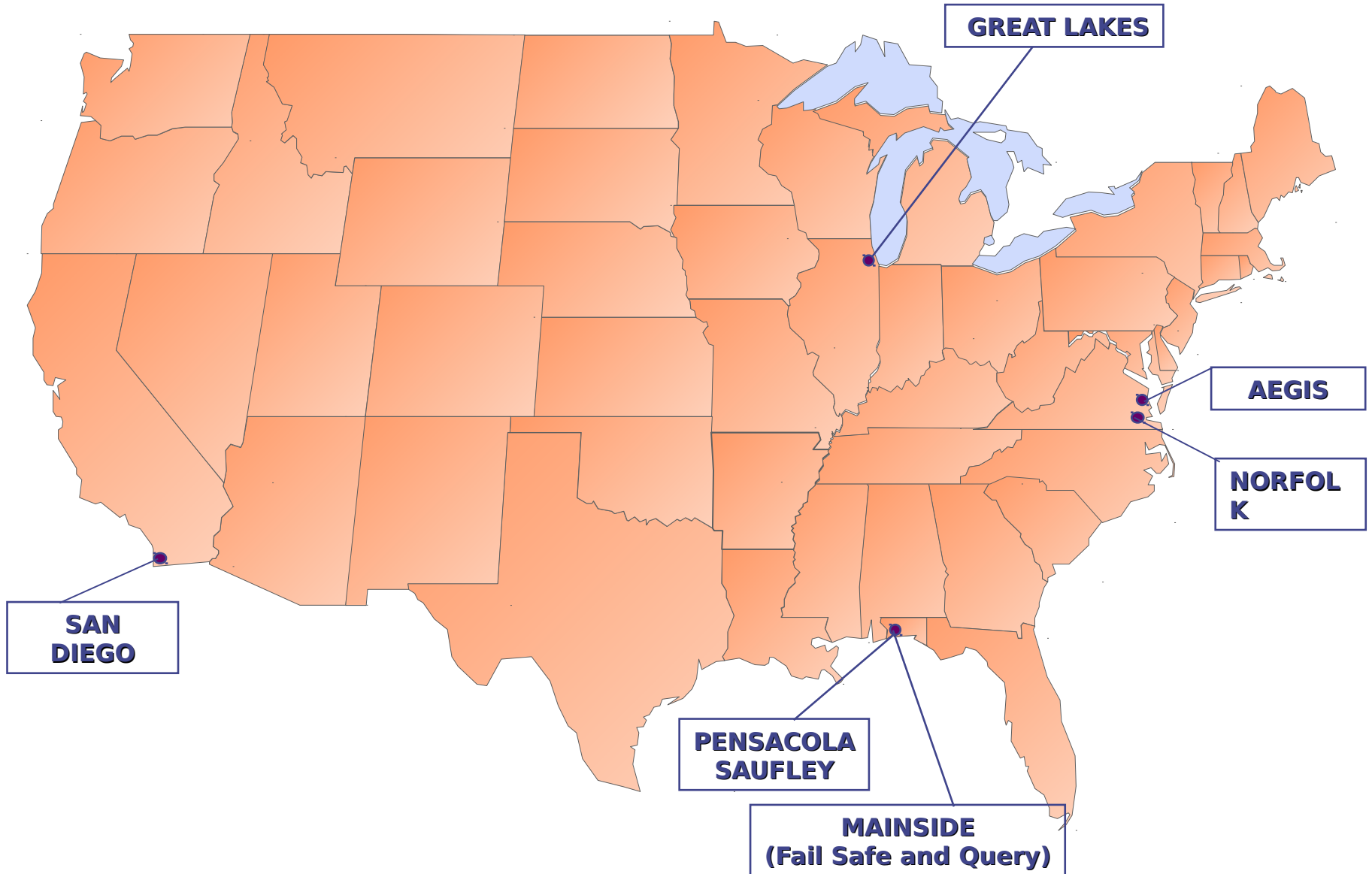# Current STASS/NITRAS Infrastructure

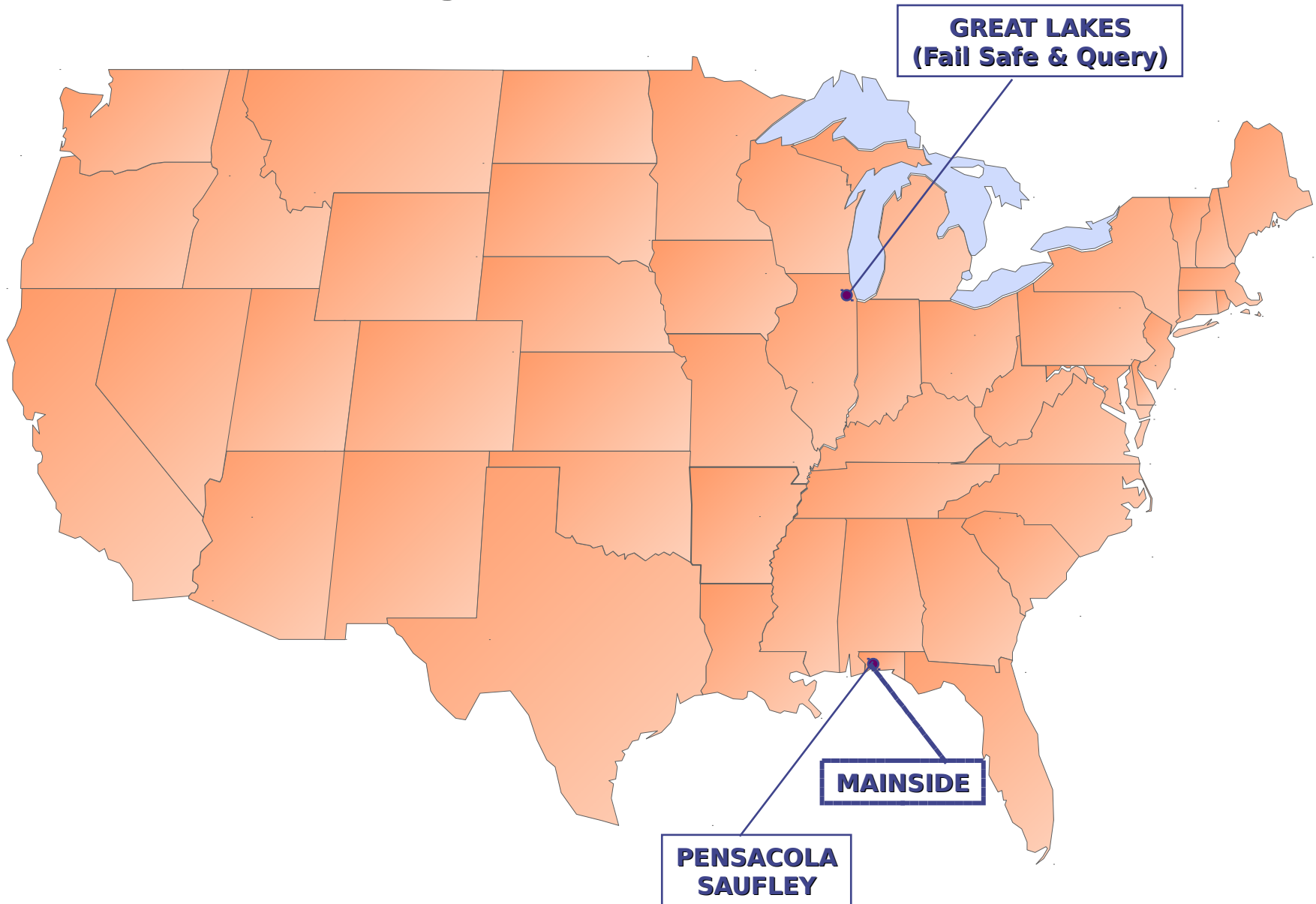

BANGOR

GREAT LAKES

NEW LONDON

AEGIS

NORFOLK

KINGS BAY

SAN DIEGO

PENSACOLA SAUFLEY

Planned Consolidation with Fail Safe

GREAT LAKES

AEGIS *

NORFOLK

SAN DIEGO

PENSACOLA SAUFLEY

* AEGIS not in Fail Safe Environment

Planned COOP Implementation – Phase 1

GREAT LAKES

AEGIS

NORFOLK

SAN DIEGO

PENSACOLA SAUFLEY

MAINSIDE
(Fail Safe and Query)

Target Architecture

GREAT LAKES
(Fail Safe & Query)

MAINSIDE

PENSACOLA
SAUFLEY

Project Milestones

TASKS	START	COMP
1. Project Approval and Funding	23 Oct 2000	27 Oct 2000
2. ID Detailed Development/Operational ADPE/Environment	In Process	31 Jan 2001
3. Procure ADPE/Software, etc.	In Process	30 Mar 2001
4. Training related to New Development Env.	In Process	30 Mar 2001
5. Install ADPE	In Process	30 Jun 2001
6. Development/Conversions	1 Nov 2000	1 Oct 2001
7. Announce a Development Moratorium	15 Nov 2000	15 May 2001
8. Order/Upgrade COM/Internet Infrastructure	15 Nov 2000	1 Mar 2002
9. Document, e.g., CASE, Operations, On-line User Help, Implementation/Transition Plan	1 Mar 2001	1 Mar 2002
10. Test/QA	30 Mar 2001	1 Oct 2001
11. Prototype	1 Nov 2001	15 Dec 2001
12. Phased Implementation/User Training	1 Feb 2002	27 Sep 2002
13. Terminate Client/Server	27 Sep 2002	27 Sep 2002